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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/057,918 | 01/29/2002 | Yuan-Cheng Chin | CHIN3014/EM | 3719 |

23364 7590 09/23/2004

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| EXAMINER |
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ANYASO, UCHENDU O

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| ART UNIT | PAPER NUMBER |
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2675

DATE MAILED: 09/23/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/057,918

Applicant(s)

CHIN, YUAN-CHENG

Examiner

Uchendu O Anyaso

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-10,12 and 14-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5-10, 12 and 14-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. **Claims 1, 3, 5-10, 12 and 14-18** are pending in this action.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1, 3, 5-10, 12 and 14-18** are rejected under 35 U.S.C. 102(e) as being anticipated by *Davis et al* (U.S. Patent Appl. 2003/0034959).

Regarding **claim 1** and **10**, Davis teaches an optical mouse 10 (page 2, para 0016) comprising a sensor chip 16 (figure 1 at 10, 16).

Furthermore, Davis teaches the sensor chip body 16 having pins securely provided inside the space and extending from the body of the sensor chip 16 (*see* figure 2 at 16).

Furthermore, Davis teaches an LED 34 and LED driver 80 that are embedded within the sensor chip 16 (figure 4 at 34, 80).

Also, Davis teaches a control element by control and I/O processor 72 located in the predetermined space of sensor chip 16 and having at least one lead located at D+ and D- (figure 4 at 72, D+, D-).

Also, Davis teaches an optical element in light emitting diode 34 located in the predetermined space of sensor chip 16 having lead 90M (figure 4 at 34, 90M).

Furthermore, Davis teaches a sensor by teaching a photodetector array 84 located in the predetermined space of sensor chip 16 having pins securely provided inside the space and extending from the body of the sensor chip 16 wherein the photodetector array 84 senses light reflected from a reflective surface 50 by the LED 34 (page 3, para 0033, figure 4 at 34, 50, 84).

Regarding **claims 3 and 12**, in further discussion of claims 1 and 10, Davis teaches how a control and I/O processor 72 that is a control IC (figure 4 at 72).

Regarding **claims 6 and 15**, in further discussion of claims 1 and 10, Davis teaches an optical element in light emitting diode 34 located in the predetermined space of sensor chip 16 having lead 90M (figure 4 at 34, 90M).

Regarding **claims 5 and 14**, in further discussion of claims 1 and 10, Davis teaches a photodetector array 84 that is composed of light guide elements and is adjacent to LED 34, prism 38D and lens 38C (figure 4 at 34, 38D, 84).

Regarding **claims 7, 9 and 18**, in further discussion of claims 1 and 10, Davis teaches how the LED 34, sensor 16, and PCB 36 are a chip-on-board type (figure 2 at 16, 34, 36).

Regarding **claims 8 and 17**, in further discussion of claim 1 and 10, Davis teaches the body of the device is attached to the PCB 36 through hole 36A (figure 2 at 36A, 16).

Response to Arguments

4. Applicant's arguments filed September 8, 2004 have been fully considered but they are not persuasive.

Applicant amended independent claims 1 and 10. Applicant then contends that the Davis reference fails to teach an LED, control element, optical element and sensor all integrated into a module made up of a single body. However, Davis does indeed teach this feature. Specifically, Davis teaches an optical element in light emitting diode 34, control and I/O processor 72 and photodetector array 84 that are all integrated into a module made up of sensor chip 16 (see figure 4 at 16, 34, 72, 84). As such, Davis reads directly on this aspect of applicant's claims.

Furthermore, Applicant contends that figure 4 is "merely a schematic depiction of elements whose structure is depicted in Fig. 3 of the Davis patent." However, in the "Brief Description of the Drawings," Davis characterizes Figs. 3 and 4 as distinct embodiment by specifying that "FIG. 3 is a side cross-sectional view of the internal mouse assembly illustrated in FIG. 2 after assembly, viewed along section lines 3-3 in FIG. 2;" and "FIG. 4 is a block diagram illustrating major components of an optical motion sensor chip according to **one embodiment** of the present invention" (see pages 1, 2 at paragraphs 0009, 0012). Nowhere in Davis does he specify that figure 4 is merely a schematic depiction of elements whose structure is depicted in Fig. 3 of the Davis patent.

Also, Applicant argues that Davis teaches a separate lens assembly that includes a base 38A, a lens holder 38B to hold the lens 38C, and the prism 38D, which are all set apart from the optical sensor chip 16 and LED 34 and positioned at a preset position in the base plate 40. However, after a complete review of Davis, Applicant's attention is called to the aspect of Davis

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that teaches a sensor by teaching a photodetector array 84 located in the predetermined space of sensor chip 16 having pins securely provided inside the space and extending from the body of the sensor chip 16 wherein the photodetector array 84 senses light reflected from a reflective surface 50 by the LED 34 (page 3, para 0033, figure 4 at 34, 50, 84). Also, Davis teaches an optical element in light emitting diode 34 located in the predetermined space of sensor chip 16 having lead 90M (figure 4 at 34, 90M).

As such applicant's amendments and arguments still does not put this application in a condition for allowance.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Uchendu O. Anyaso whose telephone number is (703) 306-5934. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras, can be reached at (703) 305-9720.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



Uchendu O. Anyaso

09/17/2004



THANH NGUYEN
PRIMARY EXAMINER